IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for use in a multicarrier wireless communication system, comprising:

approximating a sum of symbol error probabilities for each antenna in a group of antennas, said symbol error probabilities being associated with sub-carriers of a multicarrier symbol, wherein approximating includes using a shortest distance between two received signal points for sub-carriers associated with each antenna~~determining symbol error rates for antennas in a group of antennas~~; and

selecting an antenna from the group of antennas for use in subsequent wireless communication based on ~~the symbol error rates~~ said approximated sums.

2. (Currently Amended) The method of claim 1, wherein:

approximating includes evaluating the following equation for each antenna:

$$\sum_{i=1}^{N} Q\left[\frac{\|\alpha_k(i)d(i)\|}{\sqrt{2}\sigma_k(i)}\right]$$

where i is a subcarrier index, k is an antenna index, N is a number of subcarriers, $Q(x)=\int_x^{\infty}\frac{1}{\sqrt{2\pi}}e^{-\frac{t^2}{2}}dt$ is the probability of error in the constellation, $d(i)$ is the shortest distance between two transmitted constellation points of the ith sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the ith sub-carrier and the kth antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the ith sub-carrier~~selecting an antenna includes selecting an antenna that has a lowest symbol error rate~~.

3. (Currently Amended) The method of claim [[1]]2, wherein:

~~said symbol error rates include average symbol error rates~~selecting an antenna includes selecting an antenna in the group of antennas that has the lowest approximated sum.

4. (Currently Amended) The method of claim [[3]]1, wherein:

approximating includes evaluating the following equation for each antenna:

$$\sum_{i=1}^{N} \frac{\sigma_k(i)}{\|\alpha_k(i)d(i)\|} \exp\left[-\frac{\|\alpha_k(i)d(i)\|^2}{4\sigma_k^2(i)}\right]$$

where *i* is a subcarrier index, *k* is an antenna index, N is a number of subcarriers, *d(i)* is the shortest distance between two transmitted constellation points of the *i*th sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the *i*th sub-carrier and the *k*th antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the *i*th sub-carrier~~said wireless communication system is a multicarrier system; and~~

~~said average symbol error rates are averaged over a plurality of sub-carriers~~.

5. - 8. (Canceled)

9. (Currently Amended) An apparatus comprising:

an antenna switch to controllably couple one of a plurality of antennas to a wireless communication circuit; and

a switch controller to select an antenna from said plurality of antennas to be coupled to said wireless communication circuit for use in supporting wireless communication~~ based on symbol error rates associated with antennas in said plurality of antennas~~, said switch controller to approximate a sum of symbol error probabilities for each antenna in said plurality of antennas, said symbol error probabilities being associated with sub-carriers of a multicarrier symbol, wherein the approximation uses a shortest distance between two received signal points for sub-carriers associated with each antenna.

10. (Currently Amended) The apparatus of claim 9, wherein:

said switch controller ~~includes an error estimator to estimate said symbol error rates associated with said antennas~~ selects said antenna based on the following equation:

$$k_e = \arg\min_k \sum_{i=1}^{N} Q\left[\frac{\|\alpha_k(i)d(i)\|}{\sqrt{2}\sigma_k(i)}\right]$$

where *i* is a subcarrier index, *k* is an antenna index, k_e is the selected antenna, *N* is a number of subcarriers, $Q(x) = \int_x^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{t^2}{2}} dt$ is the probability of error in the constellation, *d(i)* is the shortest distance between two transmitted constellation points of the *i*th sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the *i*th sub-carrier and the *k*th antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the *i*th sub-carrier.

11. (Currently Amended) The apparatus of claim 9, wherein:

said switch controller selects said antenna based on the following equation:

$$k_e = \arg\min_k \sum_{i=1}^{N} \frac{\sigma_k(i)}{\|\alpha_k(i)d(i)\|} \exp\left[-\frac{\|\alpha_k(i)d(i)\|^2}{4\sigma_k^2(i)}\right]$$

where *i* is a subcarrier index, *k* is an antenna index, k_e is the selected antenna, N is a number of subcarriers, *d(i)* is the shortest distance between two transmitted constellation points of the *i*th sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the *i*th sub-carrier and the *k*th antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the *i*th sub-carrier~~said symbol error rates are average symbol error rates~~.

12.-14. (Canceled)

15. (Original) The apparatus of claim 9, wherein:
said switch controller generates a switch control signal for said antenna switch.

16. (Canceled)

17. (Original) The apparatus of claim 9, wherein:
said wireless communication circuit includes a wireless transmitter.

18. (Original) The apparatus of claim 9, wherein:
said wireless communication circuit includes a wireless receiver.

19. (Original) The apparatus of claim 9, wherein:
said wireless communication circuit includes a wireless transceiver.

20. (Currently Amended) A system comprising:
a plurality of antennas that includes at least one dipole antenna;
an antenna switch to controllably couple one of said plurality of antennas to a wireless communication circuit; and
a switch controller to select an antenna from said plurality of antennas to be coupled to said wireless communication circuit for use in supporting wireless communication ~~based on symbol error rates associated with antennas in said plurality of antennas~~, said switch controller to approximate a sum of symbol error probabilities for each antenna in said plurality of antennas, said symbol error probabilities being associated with sub-carriers of a multicarrier symbol, wherein the approximation uses a shortest distance between two received signal points for sub-carriers associated with each antenna.

21. (Currently Amended) The system of claim 20, wherein:

said switch controller ~~includes an error estimator to estimate said symbol error rates associated with said antennas~~ selects said antenna based on the following equation:

$$k_e = \arg\min_k \sum_{i=1}^{N} Q\left[\frac{\|\alpha_k(i)d(i)\|}{\sqrt{2}\sigma_k(i)}\right]$$

where *i* is a subcarrier index, *k* is an antenna index, k_e is the selected antenna, *N* is a number of subcarriers, $Q(x) = \int_x^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{t^2}{2}} dt$ is the probability of error in the constellation, *d(i)* is the shortest distance between two transmitted constellation points of the *i*th sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the *i*th sub-carrier and the *k*th antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the *i*th sub-carrier.

22. (Currently Amended) The system of claim 20, wherein:

said switch controller selects said antenna based on the following equation:

$$k_e = \arg\min_k \sum_{i=1}^{N} \frac{\sigma_k(i)}{\|\alpha_k(i)d(i)\|} \exp\left[-\frac{\|\alpha_k(i)d(i)\|^2}{4\sigma_k^2(i)}\right]$$

where *i* is a subcarrier index, *k* is an antenna index, k_e is the selected antenna, N is a number of subcarriers, *d(i)* is the shortest distance between two transmitted constellation points of the *i*th sub-carrier, $\sigma_k(i)$ is the square root of the variance of the noise plus interference for the *i*th sub-carrier and the *k*th antenna, and $\|\alpha_k(i)d(i)\|$ is the shortest distance between two received signal points of the *i*th sub-carrier~~said symbol error rates are average symbol error rates~~.

23.-24. (Canceled)

25. (Original) The system of claim 20, wherein:
said system is part of a wireless access point.

26. (Original) The system of claim 20, wherein:
said system is part of a wireless network interface card (NIC).